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ABSTRACT

The Behavior Analysis (BA) approach to Project Follow Through, a federally funded education intervention program, has reversed the trend of academic failure of poor children by improving the educational experience of poor children from 12 communities in the urban East, Midwest, rural South, and on Indian reservations in the West. The BA model is supported by a multifaceted evaluation strategy, predicated on four systematic process and outcome evaluation techniques. Each serves a unique function, is used on a continuous and regular basis, and is designed to complement the others. The first strategy, continuous progress assessment, is a computer-based system for monitoring the weekly academic progress of each child and classroom toward prescribed year-end curriculum goals. The second evaluation technique is the annual testing of BA children and a comparable sample of non-BA children on a standardized achievement test. The third strategy calls for regular formal and informal observations of the classroom which allows the determination of possbile needs for additional and/or specialized training of the classroom staff. The fourth evaluation measure is a survey of consumer satisfaction of the program and its effects which provides a measure of the social validity of the program. (Author)

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The Behavior Analysis Follow Through Evaluation Strategy: A Multifaceted Approach[1]

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Project Follow Through

Project Follow Through, formally established under the Economic Opportunity Act in 1968 as part of the war on poverty, is a federally-funded educational intervention program for early elementary grade school children (Kg-3). Although Follow Through has not received the publicity of most poverty programs, it has been and continues to be one of the more successful programs.

The intent of the program, as originally conceived, was to provide comprehensive educational, medical and social services to poor children while simultaneously involving parents directly in the program planning and decision-making processes. The plan of implementation for the educational component, known as "planned variation," was based on the assumption that no single instructional approach was appropriate to all situations; therefore a number of diverse, experimental educational models would be implemented and evaluated. Follow Through has been acclaimed as the largest social experiment ever launched, and described as the nation's largest research and evaluation program which has developed approaches to early elementary compensatory education.

The Follow Through program, under the planned variation concept, consists of several educational models, developed and guided by a sponsor or sponsoring agency. A program sponsor has been defined as a professional person, an educator or psychologist, usually associated with a university who develops a curriculum, a set

of teacher-training procedures, and takes responsibility for seeing that the procedures go into effect in a given set of classrooms (Macoby and Zellner, 1970, p.5).

Communities which applied for and received funds for Follow Through classrooms were allowed to select the sponsor (or model) which appealed to them; most chose to affiliate with a sponsor, however, a few chose to be self-sponsored, implementing and managing their own educational approach. Currently there are twenty Follow Through sponsors annually serving nearly 80,000 children in over 150 school districts throughout the United States.

The philosophy of planned variation coupled with extensive longitudinal evaluation has made Project Follow Through a significant and innovative compensatory educational program. Together with the outside evaluations performed for the Office of Education by independent research agencies, many sponsors also perform in-house process and outcome evaluations of the effects of their model implementation strategies. This paper will discuss the multi-faceted evaluation strategy of one of the Follow Through sponsors--Behavior Analysis (BA).

Behavior Analysis Follow Through

The Behavior Analysis program, located at the University of Kansas (K.U.) initially began its role as sponsor in 1968 working with five communities. At present BA works with fifteen projects in twelve communities. Of the Follow Through sponsors, BA is one

of the more widely dispersed programs with projects in the rural

Insert Table 1 about here

South, the industrial Northeast, the urban Midwest, and on Indian Reservations in the West (See Table 1). The BA program annually serves approximately 6,200 children in over 250 classrooms. The children, Black (80%), White (10%), Indian (5%), and Puerto Rican (5%), share one fundamental commonality which has been clearly stated by Don Bushell, Jr. (1974, p.130), the originator of the BA program: "all of them share a level of poverty that predicts that they will fail in school unless we are able to make some very basic changes." Bushell's claim that many of these children will "fail in school" refers to the fact that in many of the schools in which the BA program operates, "more than 20% of the children who are in the fifth grade do not have beginning reading skills" (1974, p.130).

Behavior Analysis has been called a new strategy for education which combines traditional and innovative educational techniques to provide a unique type of learning opportunity for young children. While many of the basic principles of the model were drawn from modern learning theory, the BA program is based on the principles and procedures of the branch of psychology known as applied behavior analysis which focuses on developing and implementing

empirically-based solutions to socially-significant problems.

Behavior Analysis combines aspects of team teaching, small group instruction, non-graded classrooms, individualized instruction, programmed instruction, recommended curriculums, a token reinforcement system, an individualized curriculum targeting procedure with regular progress reports on each child's academic progress, and parental participation (Bushell & Ramp, 1974). The program emphasizes the teaching of basic academic skills such as reading, arithmetic, handwriting, and spelling. Each classroom is staffed by a teaching team consisting of a certified teacher who leads the team and is primarily responsible for reading instruction, a paraprofessional teacher's aide who guides the arithmetic instruction, and one to two parent aides who are responsible for spelling, handwriting, and individual tutoring.

The curriculum materials recommended for use in BA classrooms were selected because they create a favorable learning situation for each child and contribute to reaching specified and measurable instructional objectives. In other words, curriculum materials were selected which best fit the classroom instructional approach and the program goals.

Program Evaluation

The Behavior Analysis model is supported by a multifaceted evaluation strategy, predicated upon four systematic process and outcome evaluation techniques. As shown in Figure 1, the four basic

Insert Figure 1 about here

evaluation strategies are: classroom observation, continuous progress assessment, annual achievement testing, and an annual consumer evaluation. Each serves a unique function, is used on a continuous and regular basis, and is designed to complement the others. Table 2 presents a summary description of the key parameters of the four evaluation strategies.

Insert Table 2 about here

The effectiveness of any social service program is most accurately judged in terms of a combination of measures which consider the various dimensions of "effectiveness," e.g., test data, satisfaction data, curriculum progress data and model implementation data. The multifaceted evaluation strategy of the BA program has been designed to consider all of these dimensions. This particular combination of process and outcome evaluations appears to be of tremendous educational significance in terms of the amount and type of data collected, the overall scope, and as a demonstration of a model of an in-house evaluation stragegy that is adaptable to any educational setting.

The results of the BA program over seven years, determined by

the four evaluation strategies, indicate that it has been a successful educational intervention strategy. For example, the achievement test data have consistently demonstrated that the BA children significantly out perform their non-BA counterparts; consumer evaluation data have indicated a high level of satisfaction with the program purposes, procedures, and effectiveness. Independent, outside evaluations have corroborated these data. One outside evaluation concluded that the BA program has been eminently effective in improving academic functioning and is a valuable educational experience (Levitt, 1974, p.13). Evaluations have also indicated a high level of model implementation by the classroom teaching teams (Stallings and Kaskowitz, 1974).

The remaining sections of the paper will present a brief description of the four in-house, evaluation strategies which together comprise the BA multifaceted evaluation system.

Classroom Observation

A social intervention program as large and widely dispersed as the Behavior Analysis program faces a considerable problem in maintaining the integrity of the program model at all of its sites. This problem necessitated a procedure that would assure the replication of the model at all BA sites effectively, economically, and with minimum supervision by the University of Kansas. Thus, a strategy calling for direct observation of the classroom by trained on-site personnel, staff trainers, was designed and implemented.

The purpose of this strategy is to assist in the training of new classroom personnel, assure model replication across all classrooms, and certify BA teachers. This strategy is based on two sets of performance criteria.

The first set of performance criteria is the Instructional Teaching Criteria; these nine criteria specify the appropriate instructional behavior defined by the BA model. Table 3 lists the nine criteria. Observations made by the staff trainers must result

Insert Table 3 about here

in a "yes" response to each of the criteria. Immediately following an observation, the trainer provides feedback to the teacher beginning with the positive aspects,and then, if necessary, the areas where corrective action is needed.

A second set of performance criteria is used to evaluate the operation of the classroom motivation (token) system. Table 4 lists the eleven Exchange Teaching Criteria. If observations pro-

Insert Table 4 about here

duce "yes" responses to each item, the trainer is assured that the motivational system is functioning properly.

If the teacher meets all of the criteria on both performance

measures during the two observations, the performance is acknowledged by a Behavior Analysis Certification form and a letter of commendation. Copies of the letter are also sent to the principal and to the district offices for placement in the teacher's personnel file. The certification procedure is repeated annually; observations are made as frequently as necessary to insure proper model implementation.

A set of training manuals written specifically for the BA trainers, describe the training, observation, and corrective procedures in detail (Nelson, Saudargas, and Jackson, 1974; Jackson, Minnis- Hazel, and Saudargas, 1974). Generally, these manuals specify a three-step procedure used both to train new teachers and to monitor the performance of experienced teachers. These steps are to: (a) provide a rationale for the desired performance, describe the desired behavior, and set a criterion for the behavior; (b) model the desired behavior and allow the trainee to try it; and (c) provide the trainee with feedback and praise.

These training and monitoring procedures are supported by formal and informal observations by a training consultant (District Advisor) from the University of Kansas. Each BA site is served by a consultant who uses the telephone, mails, and monthly visits to the site to monitor the overall model implementation and to insure that the local project staff are receiving appropriate in-service support and technical training.

Despite a programs' rhetoric and intentions, actual classroom instruction may bear little resemblance to the intended model. The systematic classroom observations used in the BA program provide the needed quality control to insure model implementation. This type of process evaluation makes it possible for local training personnel to immediately begin to remediate problems as they are observed.

Continuous Progress Assessment

The most commonly used evaluative instrument in classrooms is the standardized achievement test. These tests, prepared by specialists, are administered to "provide information about how a child or a group of children at any grade level compares with similar children throughout the nation in the skills which the instrument measures" (Bushell, 1973, p.37). The results of standardized achievement tests are useful in making administrative decisions, in generally identifying gross weaknesses and outstanding performance, and in making general statements about group performance. However, "The difficulty is that they tell you nothing about why the results turn out as they do, nor do they suggest how to change the results on future occasions" (Bushell, 1973, p.38). Although achievement tests do serve a purpose, teachers need a diagnostic instrument that suggests treatments.

With this in mind, the BA program turned to a continuous progress assessment procedure which utilizes a computer-based system

for monitoring the academic progress of each child and classroom toward daily, weekly, or biweekly goals. By meeting the goals it is assured that the child will have completed a specified amount of curriculum material during the year. Briefly, this procedure is based on establishing a year-end goal for each student, dividing the curriculum into small, uniform segments, and establishing a criterion for the successful completion of each segment. Periodic, curriculum-imbedded tests that measure comprehension assure that the child masters each unit before beginning the next one. This procedure allows children to work individually at their own pace toward their individual year-end goal.

The continuous progress assessment strategy is known as the Behavior Analysis National Communication System (BANCS). The system, a fully operational communications network consisting of data transmission and receiving devices located in all BA school

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Insert Figure 2 about here

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districts which are connected to K.U., allows the transmission of book and page curriculum placement data between the projects and K.U. As shown in Figure 2, the curriculum placement data flows from the classroom through the communications system to the computation center at K.U. The processed data are then sent back to the school district for the teacher to use. The entire process

from data collection in the classroom to receipt of the processed data by the teacher is accomplished in approximately 30 hours.

The continuous progress assessment strategy and year-end targeting procedure which by necessity is curriculum specific, begins by dividing each book into a series of equal steps. The equality of the steps is based on the time that it takes to complete a step rather than on the number of pages in a step. The result is a uniform set of steps, which vary in number of pages, each of which takes no longer to complete than the other. Figure 3 shows the expected entry and exit level by grade level and the expected rate of step completion per week for the reading curriculum.

Insert Figure 3 about here

Setting year-end goals for one grade produces an entering placement position for the next. The difference between the entering and exit steps is the number of steps to be completed during each year. For kindergarten, using reading curriculum "A," as shown in Figure 3, this procedure results in a rate of .528 steps per week. For first grade, .473; second grade, .417; and third grade, .407 steps per week.

If all children entered at the same level and made the same amount of progress each week, then planning to this point would be sufficient. However, it is inappropriate to expect all chil-

dren to make the same progress and to be at the same step by the end of the year. It is appropriate though, to expect that each child be given the opportunity to make as much progress as possible and be assisted in doing so. What is required, then, are individualized progress targets that are adjusted each week depending upon how well the child did the previous week. At this point the computer becomes an invaluable tool because it can be programmed to analyze the current curriculum position of each child, relate it to previous progress, check the year-end goal, and develop a new weekly target. Since a child's entering placement could be above, slightly below, or drastically below the expected entry level, different targeting strategies are required.

There are three target options. Option A is the primary targeting strategy and simply subtracts the entry level from the previously computed year-end goal and divides the difference by the number of weeks remaining in the school year. Children generally begin working under this option unless their records indicate a low rate of progress.

Option D is a target plan which spreads the expected progress requirement over two years. It is directed at those students whose current placement is found to be below the expected placement by more than half the number of weeks remaining in the year. Under Option D, the expected rate of progress is extended over a two-year period. The new rate is less than the child was expected

to do under Option A but more than his current rate of progress. The philosophy here is that being behind is no excuse for staying behind. If the child progresses satisfactorily at the new rate, he will reach the expected year-end goal for the subsequent grade the following year. If the child's performance does not improve, the teacher can choose to place the child under a special option (explained below) whereby she selects the number of pages per day that she wants the child to read. Options A and D are called the automatic options because the computer selects them. It is possible for a student to begin on Option A, slide to D, and move back to A by the end of the year.

The third option, Option O, is a teacher selected option and is available for teachers to use generally with children having extreme difficulty; however, it may also be used for a child whose reading limits seem boundless. Under this option, any number of pages can be selected as a target which then remains constant throughout each targeting period until the teacher initiates a change.

The information or feedback report received by each teacher is output from the computer and immediately teletyped back to the district for classroom distribution. The report is essentially a continuously updated classroom roster showing the number of absences for each child, current curriculum placement, the book and

page progress since the last report, the number of pages that had been targeted for the child during the previous target period and the book and page placement (target) for the next target period.

The feedback report is a diagnostic instrument that suggests both group and individual treatments. For example, it is indispensable in a classroom in which the instruction is individualized. The report, showing the step that each child is working on, provides a recurring metric of the spread of the class across the steps; if a teacher is not individualizing the instruction, the children will tend to bunch up on a few adjacent steps. Also, if children spend too much time on certain steps, it may be a cue to redefine these units, or perhaps spend additional time in a group instruction going over some of the difficult concepts.

These data point out children who are lagging behind the rest of the class; a slow rate of progress may raise doubts if the child has mastered the previous skills necessary to complete the step on which he is currently working. A child who is outpacing his classmates may be in the wrong instructional sequence. His rapid progress is an indication that it may be possible for him to skip ahead to more advanced units.

In BA classrooms, teachers are requested to plot and keep track of the weekly step progress of their children on a specially prepared step-progress chart. This information becomes a convenient measure of the overall class progress. Also, a line is drawn

on the chart from the expected entry step to the expected exit step. By regularly checking the progress of the median child against the slope connecting the entry and exit steps, the teacher can readily determine how the class is progressing toward their exit level for that grade.

BANCS provides a continuous record of class and individual performance which can be used to evaluate the effectiveness of various instructional procedures. It has been noted that a most important feature of the feedback report is that it:

> "provides exactly the kind of feedback to the teacher that helps refine and improve the structure and content of an instructional sequence each time it is used. Rather than shifting from one technique to another on the basis of fad or the latest cute idea from the teacher's lounge, changes can be based on data which progressively makes the entire sequence more effective (Bushell, 1973, p.42).

National Achievement Testing Strategy (NATS)

The second evaluation technique is the annual testing of BA children and a comparable sample of non-BA children on a standardized achievement test. The test results, used solely for program evaluation, also allow a comparison to national test norms. The achievement test results are not used to make individual decisions about a child's abilities but only to provide an indication of program effects by grade level, school district, and across the entire program. A unique aspect of this testing program is the definition of each entering kindergarten group as a cohort which

is tracked through successive years in the program. This procedure allows various comparisons of children in terms of the number of years of continuous experience in the program.

It was, and still is the case that in twelve school districts served by the BA program, no fewer than seven different achievement tests are used and, of course, are administered at various times during the year. Since the BA program is so widely dispersed, it became obvious that it would be impossible to make any definite achievement statements given the variety of instruments used. With the approval of each district we instituted the National Achievement Testing Strategy (NATS) which uses the same achievement test administered during the ninth month of each school year.

The Wide Range Achievement Test (Jastick, Bijou, & Jastick) is the basis of NATS. The WRAT is a nationally known and widely used evaluative instrument with a set of national norms. One advantage of the WRAT is that its structure allows children from pre-kindergarten through fifth grade to take the identical sections of the test (Level I). This eliminates the necessity of artifically adjusting scores across grade level tests. From an economic standpoint, the WRAT is relatively inexpensive and is easy to administer.

To insure reliable and consistent administration of the test across all sites, BA has developed its own tester training package consisting of instructional booklets and quizzes, videotapes, and

practice testing sessions (Mohamoud, Skinner & Weis, 1974 & 1974a). A local testing supervisor and testers who generally have had some experience with the WRAT are hired by each local project to administer and grade the tests. Three-day tester training sessions are conducted by the testing supervisor, and when necessary, by a K.U. training team. Each tester is quizzed on the specially prepared administration and grading manuals, views the videotapes which demonstrate proper administration and grading procedures, and administers the WRAT to a child in a practice session. Only those testers who meet the specified criteria are allowed to participate in the testing program.

Upon receipt of the completed and graded tests at K.U. the BA evaluation staff assigns an identification number to each student in order to identify the data for future analyses. Tests are also checked to see that all relevant demographic information have been provided. Each test from each class is then thoroughly regraded. If an error is confirmed the child's score is changed to a "No Score" and is not included in subsequent analyses. Generally, the overall error rate is approximately 5%.

Grade equivalent scores, provided by the WRAT, are calculated by determining the mean raw score for each cohort which is then converted to a mean grade equivalent score. Project scores and a summary of national test scores are distributed to each district.

Consumer Satisfaction

Most programs are evaluated in terms of how well they accomplish their intended purpose; if the evaluation is favorable, then the program is generally considered successful and beneficial. However, one might argue about the validity of a "successful program" in the absence of any data which demonstrates the satisfaction of the program consumers. In other words, it is plausible that a program has achieved its purpose but the consumers are dissatisfied with the procedures used or some other aspect of the program; it is insufficient to believe that the ends justify the means. The measurement of consumer satisfaction is as important an indicator of "success" as any other evaluation measure.

The Behavior Analysis program uses a survey of consumer satisfaction to measure or evaluate the social validity of the program. In a general sense, social validity refers to the opinion or judgment of consumers and relevant observers about the purpose, procedures, and the effects of a social intervention program. Consumer satisfaction then is a subjective measure of various aspects of a program gained by survey analysis. Such a survey may be done as a one-shot survey or, more preferably will be built-in to the program as a recurring evaluative procedure designed to provide continuous feedback to the program managers.

The purpose of the consumer satisfaction survey called the Annual Consumer Evaluation or ACE is to measure consumer satisfac-

tion with the BA instructional model, the services provided by the University of Kansas Support and Development Center for Follow Through, as sponsor to the local districts, and the services provided by the BA staff at each local site. Also, this device provides consumers with a "sounding board" whereby they have the opportunity to feedback their opinions and comments about the program.

Consumers of the program are: the children, their parents, BA teachers and aides, BA trainers, Project Directors, school district administrators, and non-BA teachers and children in the schools in which the program operates. In all, there are seven categories of consumers or respondents. The ACE attempts to survey the total population of consumers--a total of about 10,000 respondents.

Questionnaires were designed for each respondent category. Each questionnaire, except for the childrens' consisted of standard background information questions and from three to six program evaluation questions. Where possible all respondents were asked the same or similar questions. A space for comments was provided next to each question. A Likert-type seven category response set from "completely satisfied" to "completely dissatisfied" was used (Likert, 1932). A response of "6" (satisfied) was chosen as the level of satisfaction that we would like to achieve.

Questionnaires are mailed to the sites to be distributed to the respondents by a local project staff member, together with a

set of instructions and a cover letter. The letter notes that we are interested in the respondents' open and honest opinions, and that anonymity will be guaranteed. The completed questionnaires are returned to K.U. for analysis.

The children's questionnaires are handled differently. Since all BA children and a comparison group of non-BA children are given an achievement test annually, the testers are instructed to ask the children five brief questions and record their responses on their test. These data are collected and analyzed after the tests are returned to K.U.

We feel that the ACE is unique in that few school systems or educational programs measure consumer satisfaction and fewer yet survey the total population of consumers along the three dimensions of purpose, procedures, and effects. Whether or not we can ultimately satisfy all the consumers remains to be seen. But a survey such as the ACE provides the foundation to obtain the data necessary to correct any aspect of the program that is judged unsatisfactory. It is important to emphasize this aspect of the consumer satisfaction survey, that is, that the data derived from the surveys are used to improve unsatisfactory aspects of the program.

Conclusion

Since its beginning the overriding goal of the Behavior Analysis program has been to provide the children served with an educational program that would insure a level of functioning in the

basic academic skills comparable to non-poor, "middle-class" children. Succinctly, this goal has been to provide a year's worth of academic achievement for each year in school.

The success of the BA program is in large part due to the systematic and comprehensive evaluation strategy which allows a regular and recurring flow of data used to monitor various aspects of the program, and as a basis to initiate change. In an era of uncertainty about the most effective and efficient way to educate children, and with a heightened need to sort out the effective from the ineffective models, the need for comprehensive, data-based evaluation is paramount.

Program evaluation is a complex and unsettled "art." Because of this, there are those who argue against any rigorous form of evaluation--they would, so to speak, throw out the baby with the bath water. The BA program is well-aware of the many pitfalls involved in evaluation but strongly believes there is no other way to gauge program effectiveness; in the absence of, or with incomplete evaluations, no questions will ever be answered.

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Footnotes

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Figure Captions

Figure 1. The four evaluation strategies of the Behavior Analysis program.

Figure 2. The path traveled by the BANCS data from classroom to K.U. and back to classroom. Dotted lines indicate path of raw data; the solid lines, processed data; and the solid, wavy lines indicate a personal contact rather than an actual delivery of processed data.

Figure 3. Yearly target slopes for reading curriculum "A" from entry level to exit level (year-end goal)

BA MULTIFACETED EVALUATION STRATEGY

is model implemented appropriately?

CLASSROOM OBSERVATION

are children progressing?

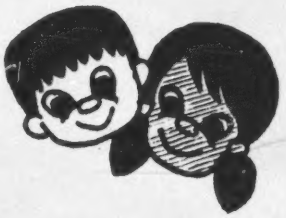
CONTINUOUS PROGRESS ASSESSMENT

is the program effective?

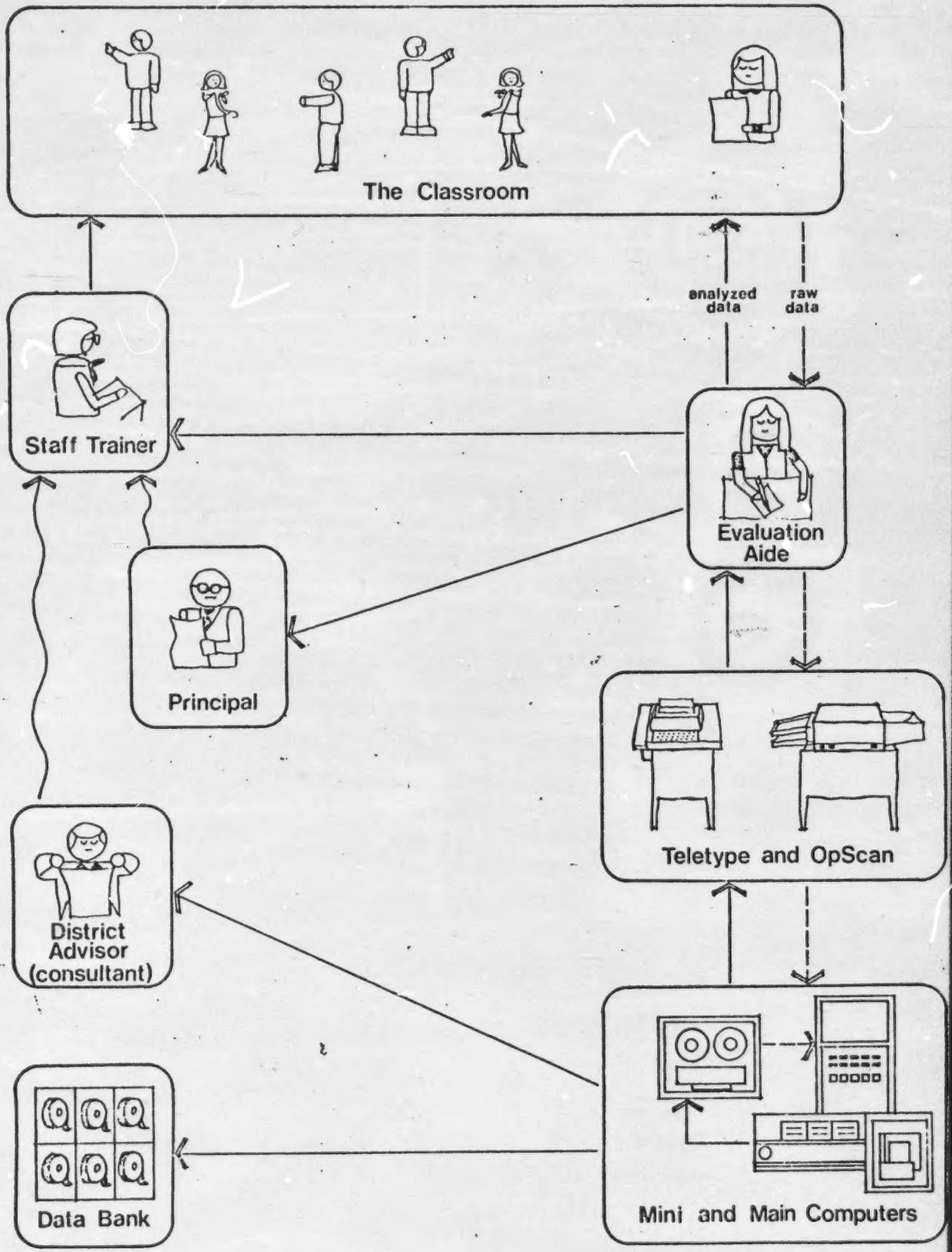
ANNUAL ACHIEVEMENT TESTING

are the consumers satisfied?

ANNUAL CONSUMER EVALUATION



BANCS PATH


The Classroom
analyzed data
raw data
Staff Trainer
Evaluation Aide
Principal
Teletype and OpScan
District Advisor (consultant)
Data Bank
Mini and Main Computers

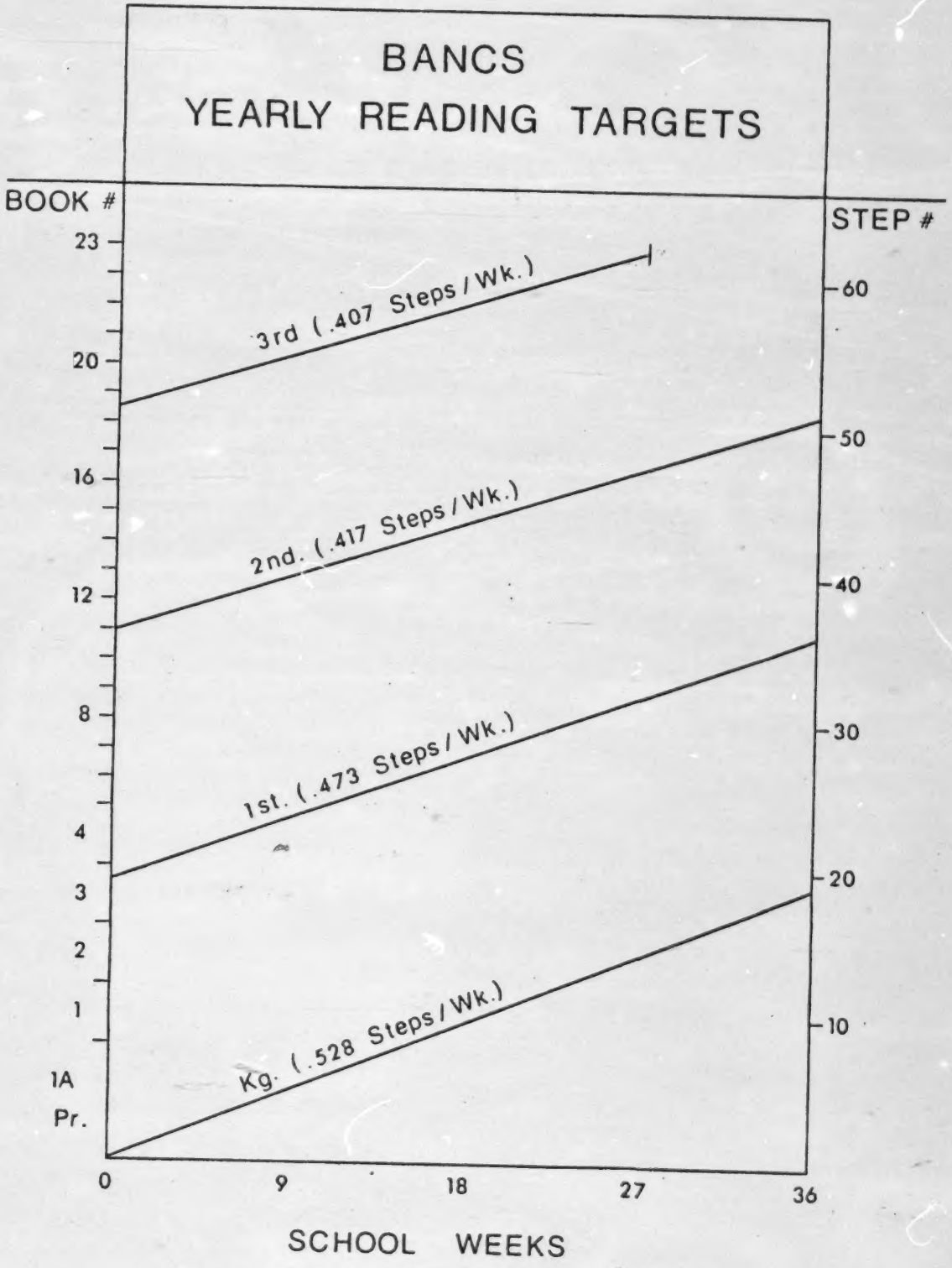

BANCS
YEARLY READING TARGETS
BOOK #
STEP #
23
20
16
12
8
4
3
2
1
1A
Pr.
60
50
40
30
20
10
3rd (.407 Steps/Wk.)
2nd. (.417 Steps/Wk.)
1st. (.473 Steps/Wk.)
Kg. (.528 Steps/Wk.)
0
9
18
27
36
SCHOOL WEEKS

TABLE 1

BEHAVIOR ANALYSIS
FOLLOW THROUGH PROJECTS IN OPERATION

1975-76

LOCATION	SCHOOLS	CLASSES (K-3)	CHILDREN
*BRONX	2	19	580
*HOPI RESERVATION, ARIZONA	5	21	298
INDIANAPOLIS, INDIANA	4	15	386
KANSAS CITY, MISSOURI	4	25	638
LOUISVILLE, KENTUCKY	4	21	624
MERIDIAN, ILLINOIS	2	19	366
NORTHERN CHEYENNE, MONTANA	3	11	271
PITTSFIELD, MASSACHUSETTS	2	8	157
*PHILADELPHIA, PENNSYLVANIA	3	47	1324
*PORTAGEVILLE, MISSOURI	1	16	384
*TRENTON, NEW JERSEY	8	36	849
WAUKEGAN, ILLINOIS	1	22	496
TOTALS	39	260	6273

*Program initiated in the fall of 1968. All other programs initiated the fall of 1969.

Table 2

BAFT PROGRAM EVALUATION

Evaluation Strategy	BA System	Type of Evaluation	Data Collected	Type of Data Collected	N Size	Subjects
Classroom Observation	Training and Monitoring	Process	Bi-Weekly	Observation Data		Teachers, Children
Continuous Progress Assessment	BANCS[1]	Process	Weekly	Curriculum Placements	6,273	Children
Annual Achievement Testing	NATS[2]	Outcome	Annually	Achievement Test Scores	11,488	Children
Annual Consumer Evaluation	ACE[3]	Process and Outcome	Annually	Question-naires	10,720	All Program Consumers

[1]Behavior Analysis National Communication System

[2]National Achievement Testing Strategy

[3]Annual Consumer Evaluation

Table 3

Instructional Teaching Criteria*

1. 80% of the children are on-task.
2. 100% of teacher's contacts are to children who are on-task.
3. 100% of teacher's contacts contain praise.
4. 100% of tokens given out are paired with praise.
5. 90% of teacher's contacts that include prompts also contain descriptive praise and tokens.
6. None of teacher's contacts are disapprovals.
7. Time-out procedures, if needed, are used appropriately. (See Bushell, 1973, pp. 75-78).
8. Four children in group, selected randomly, are working at 80% accuracy.
9. For a period of four weeks, the percentage of children "on-target" in the teacher's instructional groups must be 80%, as calculated by the computer.

*Abstracted from Nelson, Saudargas, and Jackson, 1974, p. 4.

Table 4

Exchange Teaching Criteria*

1. Back-up reinforcing activities are prepared and ready prior to the start of the instructional period.
2. Prices and content of the back-ups vary at two exchange periods observed on the same day.
3. Prices vary for each instructional group.
4. Prices are the same for all children within each group.
5. Children are free to choose any activity for which they have enough tokens.
6. Children with too few tokens sit quietly during the exchange period.
7. The first child in a group who is ready to exchange is allowed to do so without waiting for the other children to get ready.
8. At least one back-up contributes to a relevant academic skill.
9. Adults participate in the back-up activities.
10. Teachers give praise for appropriate play during exchange periods.
11. At the end of the exchange, instruction begins with the first child who comes to the table.

*Abstracted from Nelson, Saudargas, and Jackson, 1974, p. 5.